

5 of: as a base oil

a pentaerythritol ester of formula (1)



0.1-5% by weight based on the total amount of said refrigerator oil of at least one epoxy compound selected from the group consisting of phenylglycidyl ether epoxy compounds, alkylphenylglycidyl ether epoxy compounds, alkylglycidyl ether epoxy compounds, glycidyl ester epoxy compounds, aryloxirane compounds, alkyloxirane compounds, alicyclic epoxy compounds and epoxidized fatty acid monoesters.

No Kinematic Necessity!

Sub

10
B17



15

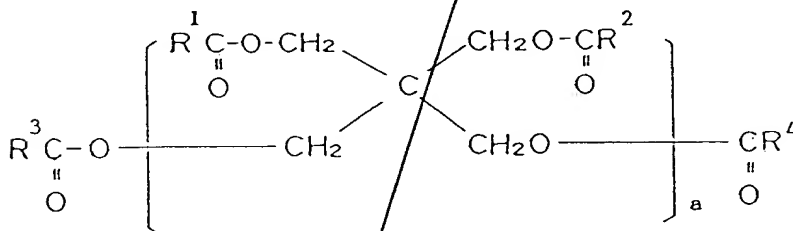
20

25

Sub
10
Big

10

(1)



20

25

A

additives, exte
antifoaming

10 of:

Sub B17



20

25

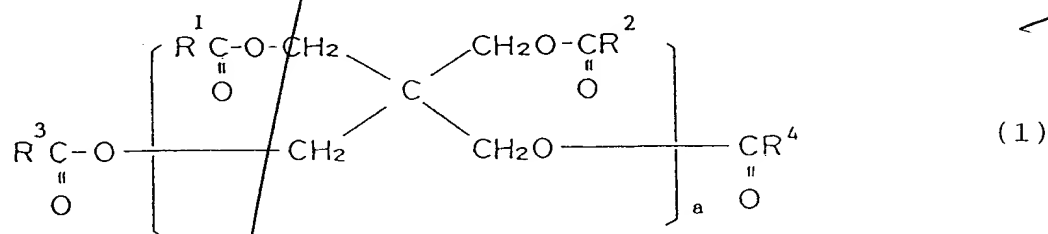
compounds, alkylphenylglycidyl ether epoxy compounds, alkylglycidyl ether epoxy compounds, glycidyl ester epoxy compounds, aryloxirane compounds, alkyloxirane compounds, alicyclic epoxy compounds and epoxidized fatty acid

5 monoesters; and

at least one phosphorus compound selected from the group consisting of phosphoric esters, acid phosphoric esters, amine salts of acid phosphoric esters, chlorinated phosphoric esters, and phosphorous esters.

10 5. A fluid composition for use in refrigerators, which consists of a chlorine-free fluorocarbon refrigerant and a refrigerator oil, and said refrigerator oil consists of:

a pentaerythritol ester of formula (1)



20

wherein R¹-R⁴ are identical with or different from each other and are each a member selected from the group consisting of straight-chain alkyl groups having 3 to 11 carbon atoms, branched-chain alkyl groups having 3 to 15 carbon atoms and cycloalkyl groups having 6-12 carbon atoms and a is an integer of 1 to 3;

25

Sub B1

10

additives, ext
Antifoaming
~~antiforming a~~
A

20

25



wherein R^1-R^4 are identical with or different from each other and are each a member selected from the group consisting of straight-chain alkyl groups having 3 to 11 carbon atoms, branched-chain alkyl groups having 3 to 15 carbon atoms and cycloalkyl groups having 6-12 carbon atoms and a is an integer of 1 to 3;

at least one conventional oil selected from the group consisting of paraffinic mineral oils, naphthenic mineral oils, poly α -olefins and alkylbenzenes;

0.1-5% by weight based on the total amount of said refrigerator oil of at least one epoxy compound selected from the group consisting of phenylglycidyl ether epoxy compounds, alkylphenylglycidyl ether epoxy compounds, alkylglycidyl ether epoxy compounds, glycidyl ester epoxy compounds, aryloxirane compounds, alkyloxirane compounds, alicyclic epoxy compounds and epoxidized fatty acid monoesters; and

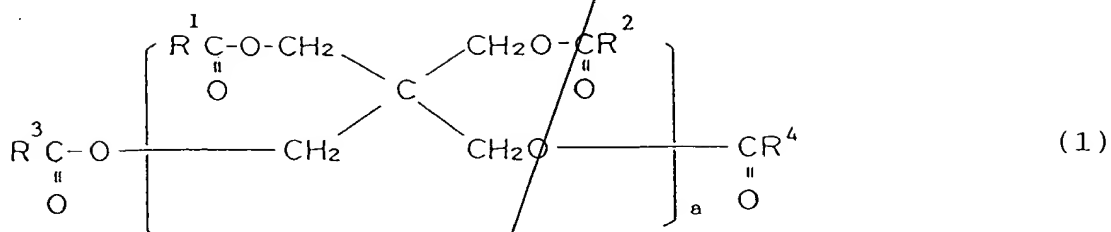
at least one phosphorus compound selected from the group consisting of phosphoric esters, acid phosphoric esters, amine salts of acid phosphoric esters, chlorinated phosphoric esters, and phosphorous esters.

7. A fluid composition for use in refrigerators, which consists of a chlorine-free fluorocarbon refrigerant and a refrigerator oil, and said refrigerator oil consists of:

a pentaerythritol ester of formula (1)

Sub B17
204760-2555763

Sub
B17



wherein R¹-R⁴ are identical with or different from each other and are each a member selected from the group consisting of straight-chain alkyl groups having 3 to 11 carbon atoms, branched-chain alkyl groups having 3 to 15 carbon atoms and cycloalkyl groups having 6-12 carbon atoms and a is an integer of 1 to 3;

0.1-5% by weight based on the total amount of said refrigerator oil of at least one epoxy compound selected from the group consisting of phenylglycidyl ether epoxy compounds, alkylphenylglycidyl ether epoxy compounds, alkylglycidyl ether epoxy compounds, glycidyl ester epoxy compounds, aryloxirane compounds, alkyloxirane compounds, alicyclic epoxy compounds and epoxidized fatty acid monoesters;

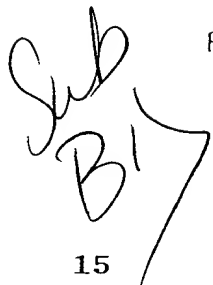
at least one phosphorus compound selected from the group consisting of phosphoric esters, acid phosphoric esters, amine salts of acid phosphoric esters, chlorinated phosphoric esters, and phosphorous esters; and

at least one additive selected from the group consisting of phenol antioxidants, amine antioxidants, wear

A

antifoaming

10



15

20

25

Sub
BI
Conf
10

A

antifoaming

20

25